

# Work Order ID 59585

Tuesday, June 08, 2010 11:31:44 AM

Page 1

Item ID: D105-674-011G

Accept

Revision ID:

Item Name: Skidtube, Grey

Start Date: 6/8/2010 Start Qty: 1.00

Required Date: 6/17/2010 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan:

Date: 10-6-08 Tooling:

Date:

QC:

Date: SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2966

Rev A2

100



DC

Document Control

DOCUMENT CONTROL

0.00

Memo

0.00

Photocopy bluefile & type labels per PPP

D105-674-011G

CHG002

8/6/30

110



Skidtubes

Skidtubes

Skidtubes

0.00

Memo

0.00

1-Determine square end of tube and deburr  
2-Drill #30 pilot holes using DT8678. Open holes to Ø5/16" (0.313"). Deburr holes.

DP

10-6-10

120



CNC Bend 1

CNC Delta 100 Bender

BENDING MACHINE - SKIDTUBES

0.00

Memo

0.00

Bend tube as per program BO105 on CNC Bender and Dwg D2966 as per folio 1

DP

10-6-10

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130



Skidtubes

Skidtubes

Skidtubes

**Memo**

- 1-Cut Fwd end of the tube using DT8185-1
- 2-Cut Aft end at 107.06" using DT8185D
- 3-Deburr ends
- 4-Drill Aft Cap holes using DT8678
- 5-Locate DT8679 with 1/8 clecos in Aft Cap holes. Ensure DT8679 is centered on Fwd end of tube and drill #40 Fwd bushing.
- 6-Clamp DT8679 to the tube. Drill all #30 wearplate and crossbolt holes.
- 7-Open Aft Cap holes using #6 drill
- 8-Open wearplate holes and two side holes to Ø19/64" (0.297") as per Dwg D2966-1.
- 9-Deburr holes.
- 10-Open remaining (16) crossbolt holes to Ø0.500

0.00

0.00

140



Skidtubes

Skidtubes

Skidtubes

**Memo**

- 1-Weld Fwd Cap as per Dwg D2966 and QSI 004. Fill #40 Fwd cleco hole.
- 2-Grind Fwd Cap welds flush

0.00

① 11/6/15

A/R m114242

BE 10/6/14



Handwritten signature and date 10-6-10

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150  QC Quality Control	QC10- Inspect visual per QSI004- ground welds  Memo	0.00 0.00							
160  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00							
170  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00 0.00							

8/10/6/15

8/10/6/15



10-6-15

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

180

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

~~10-6-15~~ D

190

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Open crossbolt holes to finish size as per Dwg D2966  
2-Open 14 holes to Ø0.750" & 2 holes to Ø0.875", countersink crossbolt holes &  
remove alodine to prepare for welding as per Dwg D2966  
3-Deburr holes inside & outside, blow out chips

1 10/6/15

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES						
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Item ID: D105-674-011G

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Setup Start



Revision ID:

Stop



Item Name: Skidtube, Grey

Start Date: 6/8/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 6/17/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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200



Skidtubes

Skidtubes

0.00

Memo

0.00

1-Bond Web in place per QSI 015. (Ensure holes line up)

Pick:

Qty ☐ Part Numbe ☐ Description ☐ Batch

A/R ☐ Sikaflex-291 ☐ B1B519 ☐

Sikaflex expiry date: ☐ 11/2012

start time

11:45 AM 10-06-17 MB

end time

8:45 10-06-18 MB

2-Weld Crossbolt Spacers as per Dwg D2966 and QSI 004. For crossbolt spacer, weld one side, pass 5/8" drill; weld other side, pass 5/8" drill.

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch

A/R ☐ Aluminum Rod ☐ M114242

BE 10/06/21

3-Pass Ø0.630" drill to remove spillover for D2973 crossbolt. Pass Ø0.750" drill to remove spillover for D2971 crossbolt.

BE 10/06/21

4-Grind welds flush as per Dwg D2966

AWM 10-06-21

210



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8 10/06/21

(40)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Setup Start

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Stop

Item Name: Skidtube, Grey



Start Date: 6/8/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 6/17/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

220

QC5- Inspect part completeness to step on W/O

0.00

8 10/06/21

0.00



QC

Memo

Quality Control

10

PTO =&gt;

230

Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3

0.00

0.00



Powdercoat

Memo

Powder Coating

START TIME: 1:45

OVEN TEMPERATURE: 320°

FINISH TIME: 2:15

1 10-6-28

240

QC3- Inspect Part Finish

0.00

0.00



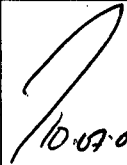

QC

Memo

Quality Control

1 10/06/29

1 10-6-28

W/O: 59585		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
10/06/25	224	Reallocate AS per PAR-09-043	JK	10/06/25	1	 10.07.06	 10.07.24	

Part No: D105-674-011G PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 59585**

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Item ID: D105-674-011G

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Setup Start



Revision ID:

Stop



Item Name: Skidtube, Grey

Start Date: 6/8/2010 Start Qty: 1.00



Cust Item ID:

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Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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250

0.00



HandFinishing

HandFinish

Memo

0.00

=) M 10/06/29

1

0

Hand Finishing

1-Inspect for foreign objects as per QSI 024

2-Install Inserts, Wearplate and Cap per Dwg D2966. Insert a drop of sikaflex at insert holes before installing wearplates. Seal Aft Cap using Sikaflex. Install bushing and nut. By looking Fwd, install nut to right hand side.

Pick:

Qty ☐ Part Number ☐ Description ☐ BatchA/R ☐ Sikaflex-291 ☐ 111-1093Sikaflex expiry date: ☐ 10/14

3-Wing Walk as per Dwg D2966 and QSI 005 4.4

Batch: M114032

260

0.00



QC3- Inspect Part Finish

QC

Memo

0.00

M 10/06/29

1

0

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

270

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

\*\*\*\*\*ENSURE INSERT ARE AT LOCATION (6) AS PER DWG  
D2966\*\*\*\*\*

MA 10 06 30 ①

280

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

10-6-30 SP

290

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8/10/6/30

②

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 59585**

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Setup

Start



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Start Date: 6/8/2010 Start Qty: 1.00



Required Date: 6/17/2010 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

300



Packaging

Packaging

0.00

Packaging

Memo

0.00

Identify and pack for shipping as per PPP D105-674-011G  
Location: 02

Rev A

10-7-1 sf

310



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

10/07/01 J

U 10-07-01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

Tuesday, June 08, 2010 11:31:49 AM

Page 1

Work Order ID: 59585

Parent Item: D105-674-011G

Parent Item Name: Skidtube, Grey

Comments: IPP Rev:A 04.07.07 New Issue KJ/JLM

Start Date: 6/8/2010

Required Date: 6/17/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2962-125 Outer Tube Extrusion		Manufactured	No			110	Each	30.0000	1	1			
				<u>Location</u> HALL	<u>Loc Qty</u> 30	<u>Loc Code</u>							
				17532	1								
D2964 Cap		Manufactured	No			140	Each	23.0000	1	1			
				<u>Location</u> LG	<u>Loc Qty</u> 23	<u>Loc Code</u>							
				14101	23								
D2976 BO 105 Skidtube I Beam		Manufactured	No			200	Each	0.0000	1	1			
D2971 Cross Bolt Spacer		Manufactured	No			200	Each	31.0000	1	1			
				<u>Location</u> LG	<u>Loc Qty</u> 31	<u>Loc Code</u>							
				44445	31								
D2973 Cross Bolt Spacer		Manufactured	No			200	Each	180.0000	7	7			
				<u>Location</u> LG	<u>Loc Qty</u> 180	<u>Loc Code</u>							
				14636	180								

10-6-9

BE 10/06/14  
B-59883 MB10-0617

BE 10/06/21

BE 10/06/21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Parent Item Name: Skidtube, Grey

Start Date: 6/8/2010

Required Date: 6/17/2010

Comments: IPP Rev:A 04.07.07 New Issue KJ/JLM

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2965  Cap, 105 Skidtube		Manufactured	No			250	Each	49.0000	1	1			
<div> <div>Location</div> <div>FP4</div> <div>52057</div> </div> <div> <div>Loc Qty</div> <div>49</div> <div>49</div> </div> <div> <div>Loc Code</div> <div>1360161</div> </div> <div> <div>XT M</div> <div>10/06/29</div> </div>													
D2970-1  Wearplate		Manufactured	No			250	Each	23.0000	1	1			
<div> <div>Location</div> <div>FP</div> <div>43726</div> <div>48213</div> </div> <div> <div>Loc Qty</div> <div>23</div> <div>7</div> <div>16</div> </div> <div> <div>Loc Code</div> <div></div> </div> <div> <div>XT M</div> <div>10/06/29</div> </div>													
D2970-3  Wearplate		Manufactured	No			250	Each	16.0000	1	1			
<div> <div>Location</div> <div>FP</div> <div>48214</div> </div> <div> <div>Loc Qty</div> <div>16</div> <div>16</div> </div> <div> <div>Loc Code</div> <div></div> </div> <div> <div>XT M</div> <div>10/06/29</div> </div>													
D3176-1  Bushing		Manufactured	No			250	Each	15.0000	1	1			
<div> <div>Location</div> <div>ST041</div> <div>37586</div> </div> <div> <div>Loc Qty</div> <div>15</div> <div>15</div> </div> <div> <div>Loc Code</div> <div></div> </div> <div> <div>XT M</div> <div>10/06/29</div> </div>													

Tuesday, June 08, 2010 11:31:49 AM

Shop Packet Print

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

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Page 3

Work Order ID: 59585

Parent Item: D105-674-011G

Parent Item Name: Skidtube, Grey





Comments: IPP Rev: A ☐ 04.07.07 ☐ New Issue ☐ KJ/JLM

Start Date: 6/8/2010

Required Date: 6/17/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3176-3  Nut		Manufactured	No			250	Each	23.0000	1	1			
<div> <div>Location</div> <div>ST041</div> <div>37585</div> <div>44896</div> </div> <div> <div>Loc Qty</div> <div>23</div> <div>3</div> <div>20</div> </div> <div> <div>Loc Code</div> <div></div> </div>													
ALS7-1032-130  Insert		Purchased	No			250	Each	17.0000	36	36			
<div> <div>Location</div> <div>ST282</div> <div>113238</div> </div> <div> <div>Loc Qty</div> <div>17</div> <div>17</div> </div> <div> <div>Loc Code</div> <div>M14723</div> </div>													
MS27039-1-08  Screw		Purchased	No			250	Each	1,481.000	26	26			
<div> <div>Location</div> <div>ST291</div> <div>110552</div> <div>10835</div> <div>114718</div> </div> <div> <div>Loc Qty</div> <div>1481</div> <div>44</div> <div>1237</div> <div>200</div> </div> <div> <div>Loc Code</div> <div></div> </div>													
AN960JD10L  Washer	NAS1149D0332J	Purchased	No			250	Each	3,795.000	28	28			
<div> <div>Location</div> <div>ST348</div> <div>10985</div> </div> <div> <div>Loc Qty</div> <div>3795</div> <div>3795</div> </div> <div> <div>Loc Code</div> <div></div> </div>													

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Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



# Picklist Print

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Page 4

Work Order ID: 59585

Parent Item: D105-674-011G

Parent Item Name: Skidtube, Grey





Comments: IPP Rev:A 04.07.07 New Issue KJ/JLM

Start Date: 6/8/2010

Required Date: 6/17/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MS27039-1-09  Screw		Purchased	No			250	Each	455.0000	2	2			
<div> <div>Location</div> <div>ST291</div> <div>111650</div> <div>18057</div> </div> <div> <div>Loc Qty</div> <div>455</div> <div>420</div> <div>35</div> </div> <div> <div>Loc Code</div> </div>													
D2972  Bushing		Manufactured	No			290	Each	111.0000	6	6		10/06/24	
<div> <div>Location</div> <div>ST032</div> <div>33544</div> <div>44160</div> </div> <div> <div>Loc Qty</div> <div>111</div> <div>80</div> <div>31</div> </div> <div> <div>Loc Code</div> </div>													
D2974  Packer		Manufactured	No			290	Each	7.0000	1	1		10-6-30 SP	
<div> <div>Location</div> <div>ST032</div> <div>42715</div> </div> <div> <div>Loc Qty</div> <div>7</div> <div>7</div> </div> <div> <div>Loc Code</div> </div>													
D2975  Wearshoe		Manufactured	No			290	Each	11.0000	2	2		10-6-30 SP	
<div> <div>Location</div> <div>ST497A</div> <div>41443</div> <div>44894</div> </div> <div> <div>Loc Qty</div> <div>11</div> <div>1</div> <div>10</div> </div> <div> <div>Loc Code</div> </div>													

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Page 4

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

# Picklist Print

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Page 5

Work Order ID: 59585

Parent Item: D105-674-011G

Parent Item Name: Skidtube, Grey

Comments: IPP Rev:A 04.07.07 New Issue KJ/JLM

Start Date: 6/8/2010

Required Date: 6/17/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN4-51A Bolt		Purchased	No			290	Each	24.0000	3	3			
<div> <div>Location</div> <div>ST361</div> <div>112720</div> <div>113121</div> <div>114495</div> </div> <div> <div>Loc Qty</div> <div>24</div> <div>2</div> <div>1</div> <div>21</div> </div> <div> <div>Loc Code</div> <div></div> <div></div> <div></div> <div></div> </div>													
AN960JD10L Washer	NAS1149D0332J	Purchased	No			290	Each	3,795.000	28	8			
<div> <div>Location</div> <div>ST348</div> <div>110985</div> </div> <div> <div>Loc Qty</div> <div>3795</div> <div>3795</div> </div> <div> <div>Loc Code</div> <div></div> <div></div> </div>													
MS21042L4 Nut		Purchased	No			290	Each	3,972.000	3	3			
<div> <div>Location</div> <div>ST139</div> <div>111827</div> <div>ST300</div> <div>113422</div> <div>114523</div> <div>114718</div> <div>114784</div> <div>9063</div> </div> <div> <div>Loc Qty</div> <div>2</div> <div>2</div> <div>3970</div> <div>68</div> <div>894</div> <div>1000</div> <div>2000</div> <div>8</div> </div> <div> <div>Loc Code</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> </div>													

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Page 6

Work Order ID: 59585

Parent Item: D105-674-011G

Parent Item Name: Skidtube, Grey

Comments: IPP Rev:A 04.07.07 New Issue KJ/JLM

Start Date: 6/8/2010

Required Date: 6/17/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MS27039-1-08 Screw		Purchased	No			290	Each	1,481.000	26	8			

Location

Loc Qty

Loc Code

ST291

1481

110552

44

110835

1237

114718

200

10.6.30 sp

8

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Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN RF	DRAWN BY RF	DART AEROSPACE USA, INC. BELLEVUE, WA	
CHECKED #	APPROVED #	DRAWING NO. D2966	REV. A SHEET 1 OF 2
DATE 00.03.08		TITLE BO 105 SKIDTUBE ASSEMBLY	SCALE NTS
A	00.03.08	NEW ISSUE	

RELEASED  
00.05.11 #

Qty	Part Number	Description
X	D2966-041	SKIDTUBE ASSEMBLY
1	D2962-125	EXTRUSION
1	D2964	CAP
1	D2965	CAP
1	D2970-1	WEARPLATE
1	D2970-3	WEARPLATE
1	D2971	CROSS BOLT SPACER
7	D2973	CROSS BOLT SPACER
1	D2976	WEB
36	ALS7-1032-130 or ALS4-1032-130 or AKS7-1032-130 or AKS4-1032-130	INSERT
28	AN960JD10L	WASHER
26	MS27039-1-08	SCREW
2	MS27039-1-09	SCREW
1	D3176-1	BUSHING
1	D3176-3	NUT

SHOP COPY  
RETURN TO  
ENGINEERING  
CONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 59585  
B810-6-08



#### GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) WELDING TO BE DONE PER DART QSI 004.
- 3) INSERT D2976 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- 4) USE DART DRILL TEMPLATE DT8451 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION B-B (34 PLACES) AFTER FINISH. SEAL WEARPLATE SCREWS WITH SIKAFLEX-241/-291.
- 5) DO NOT INSTALL MS27039-1-08 SCREWS AND AN960JD10L WASHERS IN THESE LOCATIONS.
- 6) INSTALL ALS7-1032-130 INSERT, MS27039-1-08 SCREW, AND AN960JD10L WASHER IN 2 PLACES THIS LOCATION BEFORE POWDER COATING.
- 7) FINISH:

ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2976 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.6.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART  
QSI 005 4.4 (OPTIONAL) BLACK SANDTEX (REF 4.3.5.7)



# 01.01.29  
IP 01.01.30

A2	02.10.30	ADD D3176-1/-3	# IP
A1	01.01.29	CHANGE COLOR TO BLACK SANDTEX	# IP

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

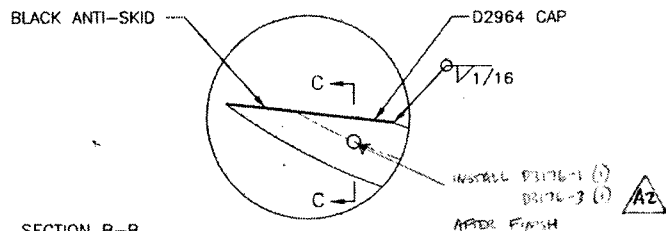
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

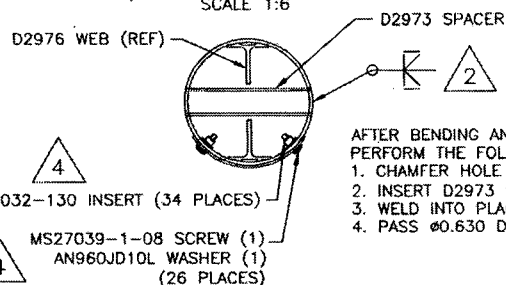
**NOTE:** Date & initial all entries



DETAIL A  
SCALE 1:3



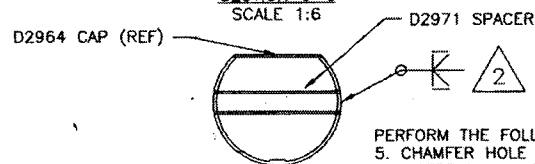
SECTION B-B  
SCALE 1:6



ALS7-1032-130 INSERT (34 PLACES)

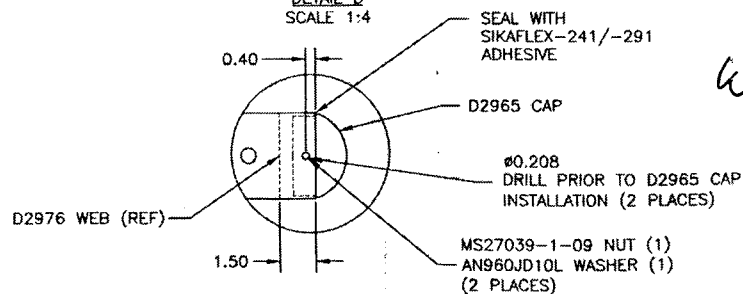
MS27039-1-08 SCREW (1)  
AN960JD10L WASHER (1)  
(26 PLACES)

SECTION C-C  
SCALE 1:6

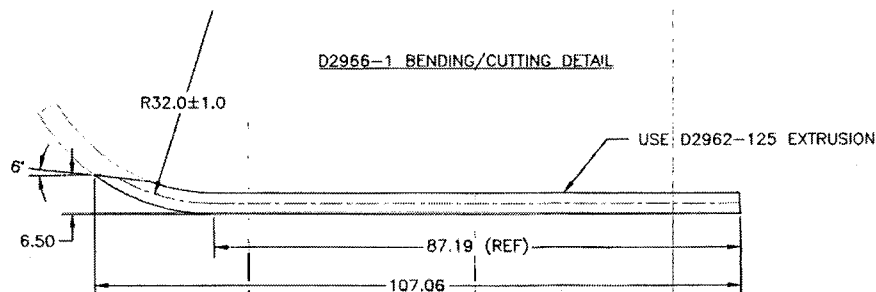


PERFORM THE FOLLOWING FOR Ø0.625 HOLES ONLY:  
5. CHAMFER HOLE 0.030 x 45°  
6. INSERT D2971 SPACER  
7. WELD INTO PLACE AND GRIND FLUSH  
8. PASS Ø0.484 DRILL TO REMOVE SPILL OVER

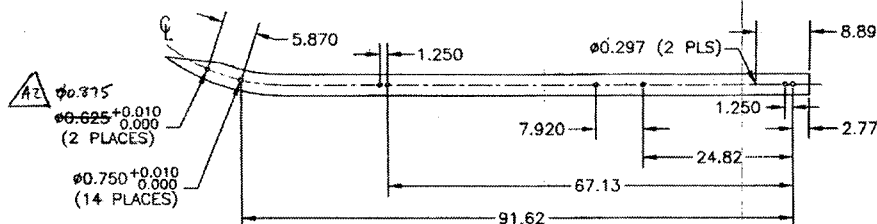
DETAIL D  
SCALE 1:4



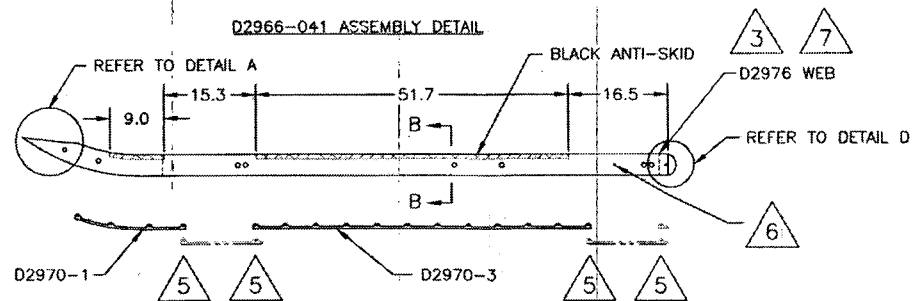
D2966-1 BENDING/CUTTING DETAIL



D2966-1 DRILLING DETAIL



D2966-041 ASSEMBLY DETAIL



W/d 59585

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THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		CHECKED A	APPROVED A	DRAWING NO. D2966	SHEET 2 OF 2
		DATE 00.03.08		TITLE BO 105 SKIDTUBE ASSEMBLY	SCALE 1:20

RELEASED  
00-05-11

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

NO. 192

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliot  
Job number: 44849  
Part number: D105 674 011 WC  
Description: 60 105  
Welding Process: Tig ☒ Mig ☐  
Base material: Aluminium  
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual:  
Penetration:

pass ☒ fail ☐  
pass ☒ fail ☐

UNACCEPTABLE

Cracks:  
Undercut:  
Pin holes:  
Overlap (cold lap)  
Porosity (surface):  
Coloration:

pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐

Qualifier Pct Duvel

Date of Test Coupon 09-02-05

Welder Barclay Elliot

Date of Test Coupon 09-02-05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld